Claims:

1. A method of adjusting acquisition assistance data received by a mobile receiver from a server, comprising:

measuring pseudoranges from said mobile receiver to a set of satellites;

obtaining line-of-sight data with respect to said mobile receiver and said set of satellites;

processing said pseudoranges and said line-of-sight data to compute updates for an initial position associated with said acquisition assistance data and correlator clock bias associated with said pseudoranges; and

adjusting said acquisition data using said updates and said line-of-sight data.

2. The method of claim 1, further comprising:

measuring at least one additional pseudorange from said mobile receiver to at least one additional satellite using said adjusted acquisition assistance data.

3. The method of claim 2, further comprising:

computing position of said mobile receiver using said pseudoranges and said at least one additional pseudorange.

4. The method of claim 3, further comprising:

sending said pseudoranges and said at least one additional pseudorange to said server;

wherein said position is computed by said server.

5. The method of claim 3, wherein said position is computed by said mobile receiver.

6. The method of claim 2, wherein said step of measuring pseudoranges comprises processing satellite signals received from said set of satellites using a first sample spacing, and wherein said step of measuring at least one

additional pseudorange comprises processing a satellite signal from each said at least one additional satellite using a second sample spacing.

7. The method of claim 6, wherein said second sample spacing is less than said first sample spacing.

8. The method of claim 1, wherein said acquisition assistance data comprises expected pseudoranges computing using said initial position.

9. The method of claim 1, wherein said acquisition assistance data comprises a pseudorange model computed using said initial position.

10. The method of claim 1, wherein said line-of-sight data is obtained from said acquisition assistance data.

11. The method of claim 10, wherein said line-of-sight data comprises azimuth data and elevation data.

12. The method of claim 1, further comprising:

measuring pseudorange rates at said mobile receiver;

obtaining almanac data; and

computing an approximate position of said mobile receiver using said pseudorange rates and said almanac data;

wherein said step of obtaining line-of-sight data comprises computing said line-of-sight data using said approximate position and said almanac data.

13. The method of claim 1, further comprising:

obtaining almanac data; and

obtaining an approximate position of said mobile receiver;

wherein said step of obtaining line-of-sight data comprises computing said line-of-sight data using said approximate position and said almanac data.

14. The method of claim 1, wherein said step of processing comprises:

obtaining expected pseudoranges from said acquisition assistance data; and

forming a mathematical model relating said pseudoranges, said expected pseudoranges, and said line-of-sight data to said updates.

15. A mobile receiver, comprising:

a wireless transceiver for receiving acquisition assistance data from a server;

a satellite signal receiver for measuring pseudoranges from said mobile receiver to a set of satellites; and

a processor for obtaining line-of-sight data with respect to said mobile receiver and said set of satellites, processing said pseudoranges and said line-of-sight data to compute updates for an initial position associated with said acquisition assistance data and correlator clock bias associated with said satellite signal receiver, adjusting said acquisition data using said updates and said line-of-sight data.

16. The mobile receiver of claim 15, wherein said satellite signal receiver is further configured to measure at least one additional pseudorange from said mobile receiver to at least one additional satellite using said adjusted acquisition assistance data.

17. The mobile receiver of claim 16, wherein said processor is further configured to compute position of said mobile receiver using said pseudoranges and said at least one additional pseudorange.

18. The mobile receiver of claim 16, wherein said wireless transceiver is configured to transmit said pseudoranges and said at least one additional pseudorange to said server.

19. The mobile receiver of claim 16, wherein said satellite signal receiver is configured to sample satellite signals at multiple sample spacings, wherein said

pseudoranges are measured using a first sample spacing, and wherein said at least one additional pseudorange is measured at a second sample spacing.

20. The mobile receiver of claim 19, wherein said second sample spacing is less than said first sample spacing.

21. The mobile receiver of claim 15, wherein said processor is configured to obtain said line-of-sight data from said acquisition assistance data.

22. The mobile receiver of claim 21, wherein said line-of-sight data comprises azimuth data and elevation data.

23. The mobile receiver of claim 15, wherein said processor is configured to compute said line-of-sight data using almanac data.

24. Apparatus for adjusting acquisition assistance data received by a mobile receiver from a server, comprising:

means for measuring pseudoranges from said mobile receiver to a set of satellites;

means for obtaining line-of-sight data with respect to said mobile receiver and said set of satellites;

means for processing said pseudoranges and said line-of-sight data to compute updates for an initial position associated with said acquisition assistance data and correlator clock bias associated with said pseudoranges; and

means for adjusting said acquisition data using said updates and said line-of-sight data.